

Claims

1. An axial piston machine (1) with a rotatably mounted cylinder drum (5), which comprises a central recess (38) and a plurality of cylinder bores (6) extending approximately axially relative to the central recess (38), in which bores (6) pistons (7) are movably guided, which are supported on a swash plate (11) via guide shoes (8), which are guided in recesses (23) in a return plate (22), in the centrally arranged internal bore (25) of which there is guided a return member (26) with an outer surface corresponding to the internal bore (25) in the return plate (22), the return member (26) being exposed to a pretensioning force in the axial direction via at least one pressure pin (28) by means of a tension spring (27),
characterised in that
each pressure pin (28) comprises a surface enlargement (43) radial relative to its longitudinal axis (34) at its bottom end (40) facing the return member (26).
2. An axial piston machine according to claim 1,
characterised in that
the return member (26) is exposed to a pretensioning force in the axial direction via a plurality of pressure pins (28) by means of a tension spring (27).
3. An axial piston machine according to claim 2,
characterised in that
the pressure pins (28) are arranged equidistantly in a circle concentric to the central recess (38).
4. An axial piston machine according to claim 2 or claim 3,
characterised in that

the pretensioning force of the tension spring (27) is transmitted to the pressure pins (28) via a spring washer (30).

5 5. An axial piston machine according to claim 4,
characterised in that
each pressure pin (28) comprises a surface enlargement (32)
radial relative to its longitudinal axis (34) at its top
end (31) opposite its bottom end (40) and facing the spring
10 washer (30).

6. An axial piston machine according to claim 5,
characterised in that
a retaining hook (36, 44) is provided in each case at the
15 outer edge of the two surface enlargements (32, 43) of each
pressure pin (28).

7. An axial piston machine according to claim 6,
characterised in that
20 each retaining hook (36, 44) at the end of the respective
surface enlargement (32, 43) of each pressure pin (28)
projects in each case approximately perpendicularly out of
the bearing surface (35, 45) formed by the end face of a
basic member (34) and in each case the end face of the
25 surface enlargement (32) and (43).

8. An axial piston machine according to claim 6 or claim 7,
characterised in that
each retaining hook (44) at the end of the surface
30 enlargement (43) at the bottom end (40) of each pressure
pin (28) is introduced in each case into an opposing
bore (47) in the return member (26).

9. An axial piston machine according to claims 6 to 8,
characterised in that,
at the top end (31) of the pressure pins (28), the
retaining hooks (36) at the end of the surface enlargement
5 (32) enclose the spring washer (30).

10. An axial piston machine according to claims 1 to 9,
characterised in that
the bearing surface (45), formed from the end face of the
10 surface enlargement (43) and the end face of the basic
member (34), at the bottom end (40) of each pressure
pin (28) exhibits at least twice as large a surface area as
the end face of the basic member (34) of the pressure
pin (28).

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11. An axial piston machine according to any one of
claims 5 to 9,
characterised in that
the outer edges of the bearing surfaces (35) of the surface
20 enlargements (32) at the top end (31) of two diametrically
opposed pressure pins (28) exhibit a spacing which
corresponds to the external diameter of the spring
washer (30).

25 12. An axial piston machine according to any one of
claims 5 to 9 or 11,
characterised in that
one or both of the two surface enlargements (32, 43) of
each pressure pin (28) is/are provided on one side relative
30 to the longitudinal axis (34) of the pressure pin (28).

13. An axial piston machine according to any one of claims 1 to 12,

characterised in that

each pressure pin (28) exhibits the same length.

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14. An axial piston machine according to any one of claims 1 to 13,

characterised in that,

in the central recess (39) of the rotatably mounted
10 cylinder drum (5), a shaft (4) acts in the manner of a drive by means of a spline profile and the pressure pins are guided through the spline profile.

15. An axial piston machine according to any one of
15 claims 1 to 14,

characterised in that

the surface enlargement (43) of each pressure pin (28) engages in a pocket (50) provided in the return member (26).

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16. An axial piston machine according to claim 15,

characterised in that,

at the outer edge of at least one of the two surface enlargements (43) of each pressure pin (28), there is in
25 each case provided a retaining hook (44) and in that the retaining hook (44) engages in each case in a recess (51) in the associated pocket (50).

17. A pressure pin (28) having a surface enlargement (32) provided at the top end (31) of the pressure pin (28),
30 **characterised in that**

a surface enlargement (43) is likewise provided at the bottom end (40) of the pressure pin (28) opposite the top end (31).

5 18. A pressure pin according to claim 17,
characterised in that

a retaining hook (36) and (44) is provided at the outer edge of each of the two surface enlargements (32, 43) of the pressure pin (28).

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19. A pressure pin according to claim 18,
characterised in that

the retaining hook (36, 44) projects at the end of each of the two surface enlargements (32, 43) of the pressure
15 pin (28) in each case approximately perpendicularly out of the bearing surface (35, 45) of the pressure pin (28) formed in each case by the end face of a basic member (34) and the end face of the surface enlargement (32, 43).

20 20. A pressure pin according to any one of claims 17 to 19,
characterised in that

the bearing surface (45) of the pressure pin (28) formed by the end face of the surface enlargement (43) at the bottom end (40) of the pressure pin (28) and the end face of the
25 basic member (34) exhibits at least twice as large a surface area as the end face of the basic member (34) of the pressure pin (28).

21. A pressure pin according to claims 17 to 20,
30 **characterised in that**

one or both of the two surface enlargements (32, 43) of the pressure pin (28) is provided on one side relative to the longitudinal axis (34) of the pressure pin (28).